



GOVERNMENT OF THE VIRGIN ISLANDS OF THE UNITED STATES

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FOR IMMEDIATE RELEASE

DPNR STAFF LISTED IN NATIONAL SCIENTIFIC JOURNAL ARTICLE

Commissioner Jean-Pierre L. Oriol of Department of Planning and Natural Resources is pleased to announce that two members of the Division of Coastal Zone Management are listed as co-authors in a recently released peer-reviewed, scientific journal article detailing the cause of the die-off of the long-spined sea urchin, *Diadema antillarum*, that spread throughout the Caribbean in early 2022. Erin Bowman, NOAA Coral Fellow, and Matthew Warham, Coral reef Initiative Coordinator assisted with the study and are listed as contributing authors.

The study, led by Ian Hewson of Cornell University and published in ***Science Advances***, names the cause of the die-off as a scuticociliate most similar to *Philaster apodigitiformis*. Scuticociliates are microorganisms that can be found throughout the world's oceans. They have been cited as the cause of a variety of other diseases in marine organisms. Herbivores like the long-spined sea urchin are vital to maintaining the health of coral reefs. Without grazers like these feeding on algae to prevent overgrowth in reef habitats, corals are often outcompeted and cannot survive.

First recorded off St. Thomas in January 2022, a striking number of these urchins were spotted by divers and snorkelers without their signature spines, being openly predated upon by fish as they rolled around the seafloor. Within just two months, the die-off had spread to more than nine other Caribbean jurisdictions, as stated in the article. The die-off situation showed striking similarity to a mass mortality event that took place in the 1980s; that event resulted in declines of around 98% of the long-spined sea urchin population in the Caribbean compared to pre-die-off numbers. It's taken a very long time for the population to rebound, having been estimated at only around 12% of pre-mortality numbers 30 years later. "While the cause of that mass-mortality was never determined, it's great to see that local practitioners were able to contribute to finding the cause of the 2022 event," said Oriol. Other local and regional collaborators on the study include the University of the Virgin Islands, the National Oceanic and Atmospheric Administration, and the Institute for Socio-Ecological Research in Puerto Rico. For the full list of contributing organizations, see the article at:

<https://www.science.org/doi/10.1126/sciadv.adg3200>